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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

Thirtieth session  
Geneva, 4-12 (a.m.) December 2006  
Item 2(a) of the provisional agenda

**PROPOSALS OF AMENDMENTS TO THE RECOMMENDATIONS  
ON THE TRANSPORT OF DANGEROUS GOODS**

Packaging performance

Provisions concerning the drop test

Transmitted by the Dangerous Goods Advisory Council (DGAC) and the  
International Confederation of Container Reconditioners (ICCR)

**Introduction**

1. At its twenty-ninth session, the Sub-Committee adopted amendments (see ST/SG/AC.10/C.3/58/Add.1, Annex 1, paragraphs 6.1.5.3.4, 6.3.5.3.1, 6.5.6.9.3, and 6.6.5.3.4.3) to requirements for the target in the drop tests for packagings, packagings for infectious substances, IBCs, and Large Packagings based on document ST/SG/AC.10/C.3/2006/59 by France. DGAC and ICCR have reviewed the adopted text and also the source of the adopted requirements in ISO 2248 paragraph 4.4 and believe that some reconsideration of the adopted provisions may be appropriate.

## ISO 2248

2. ISO 2248 does not actually impose the requirements for the drop target as adopted in paragraph 6.1.5.3.4. ISO 2248 paragraph 4.4 requires the “Impact surface, horizontal and flat, massive enough to be immovable and rigid enough to be non-deformable under test conditions.”
3. In a note associated with paragraph 4.4 the document states:  
  
“Note – In normal circumstances, the impact surface provided shall be
  - integral with a mass at least 50 times that of the heaviest package to be tested;
  - flat such that no two points on its surface differ in level by more than 2 mm;
  - rigid such that it will not be deformed by more than 0.1 mm when an area of 100 mm<sup>2</sup> is loaded statically with 10 kg anywhere on the surface;
  - sufficiently large to ensure that the test package falls entirely upon the surface.”

As a note in ISO 2248, the target surface provision is not a requirement. While providing guidance on criteria for a target surface, it allows for flexibility when strict compliance with the criteria may be impracticable.

### **Applicability of the Target surface Requirements to Existing Facilities**

4. DGAC and ICCR note that the current drop test requirements in the Model Regulations have been in use for more than 20 years and that, with the exception of a limited number of new facilities being built, target drop surfaces are already available throughout the world. While not having conducted a survey of available target surfaces, we question how many of these surfaces would be in compliance with the adopted requirements. For example, how many were constructed with a 2 mm surface tolerance? With the adopted text making no provision for existing facilities, it would seem that the new requirements, once implemented, will apply to existing facilities. Those not in compliance would have to be replaced or re-fitted. Not providing for existing facilities also raises the question of how packagings tested on target surfaces not in compliance with the adopted requirements should be regarded. Will they require retesting?

### **Drop Surfaces for IBCs and Large Packagings**

5. The relevance of ISO 2248 impact surface requirements to IBCs and Large Packagings must be questioned. The ISO text uses a 10 kg mass to evaluate the rigidity of the test surface and a surface area of 100 mm<sup>2</sup>. We believe that had the ISO 2248 been intended for IBCs and Large Packagings, a larger mass and a larger surface area would have been specified. Further, we note that a 3 000 liter IBC filled with water will require a concrete (normal density) test target of 60 cubic meters. More massive IBCs will require even more massive target surfaces. IBCs with a gross mass approaching 4 500 kgs are not unrealistic. For those IBCs a concrete target volume of 91 cubic meters would be required. Such a target mass is not likely to be available at most test laboratories. Further, the surfaces for testing IBCs and Large Packagings will, of course, be much

larger than those for packagings making the 2 mm surface tolerance requirement more difficult to comply with. We suspect that tests for most IBCs currently approved will be invalidated based on the new test surface requirements and that new surfaces will have to be provided worldwide to meet these new requirements.

### **Proposal**

6. DGAC and ICCR question the actual safety benefit provided by the text proposed at the twenty-ninth session and would prefer to maintain the existing text unchanged. We consider the ISO 2248 recommended provisions to have relevance only to test surfaces for packagings and packagings for infectious substances. If the Sub-Committee considers that some recognition of target surface criteria is necessary, DGAC and ICCR propose that a note be provided in association with the existing 6.1.5.3.4 and 6.3.5.3.1 stating:

*Note: ISO 2248:1985 Complete, filled transport packages – Vertical impact test by dropping provides guidance on criteria for the target surface.*

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